

Claims of the Invention

What is claimed is:

1. An apparatus for the delivery of a fetus comprising:
5 an obstetrical vacuum extractor with a pull-sensing handle grip, said grip comprising means for measuring electronically the magnitude of the extraction force applied to the fetal head during a vacuum extraction.
2. The apparatus of Claim 1 wherein said means for measuring electronically the
10 magnitude of the extraction force is a strain gauge.
3. The apparatus of Claim 1 further comprising:
means for producing an alarm when the extraction force exceeds a predetermined
level.
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4. The apparatus of Claim 3 wherein said means for producing an alarm is a speaker.
5. An apparatus for the delivery of a fetus comprising:
a bell-shaped vacuum cup;
20 a hollow, substantially rigid stem extending from said cup, said stem having a tang
on the opposite end;
a separate handle grip attachable to the end of the stem, said handle having an

opening through which said tang is inserted;
means for measuring the extraction forces exerted on the fetal head, said means contained in said handle grip; and
means for transmitting said extraction forces.

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6. The apparatus of Claim 5 further comprising:
means for receiving said extraction forces.
- 10 7. The apparatus of Claim 5 further comprising:
means for the graphic representation of said extraction forces.
8. The apparatus of Claim 5 further comprising:
means for the emission of a warning signal when a pre-set time limit of continuous
15 cup application is reached
9. The apparatus of Claim 5 wherein said means for measuring the extraction forces exerted on the fetal head is a strain gauge.
- 20 10. The apparatus of Claim 5 wherein said means for transmitting said extraction forces is a wireless transmitter.

11. The apparatus of Claim 6 wherein said means for receiving said extraction forces is a wireless receiver.

12. The apparatus of Claim 7 wherein said means for the graphic representation of the
5 extraction forces is a lap top computer with specific software.

13. The apparatus of Claim 8 wherein said means for the emission of a warning signal when a pre-set time limit of continuous cup application is reached is a lap top computer with a timer.

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14. The apparatus of Claim 5 further comprising:
means for producing an alarm when said extraction forces exceed a predetermined level.

15 15. The apparatus of Claim 14 wherein said means for producing an alarm is a speaker.

16. The apparatus of Claim 15 wherein said speaker is contained in said handle grip.

20 17. An apparatus for the delivery of a fetus comprising:
a bell-shaped vacuum cup made of flexible material;
a hollow, substantially rigid stem, extending from the cup and with a tang on the

opposite end, which fits in the opening of the grip housing top;
a separate handle grip attachable to the end of the stem, said handle grip comprising
means for measuring the extraction forces on the fetal head, and
means for transmitting said extraction forces;
5 means for receiving said extraction forces;
means for the graphic representation of said extraction forces;
means for the emission of a warning signal when a pre-set time limit of continuous
cup application is reached; and
a tubing connected with one end to the stem and with the other to a vacuum source.

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18. The apparatus of Claim 17 wherein said handle grip further comprises means for producing an alarm when the extraction force exceeds a predetermined level.

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